

PATENT ABSTRACTS OF JAPAN

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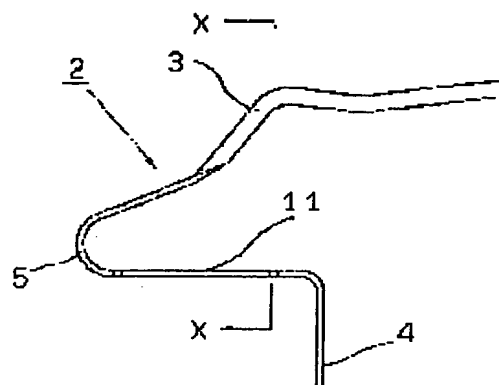
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(54) CONNECTING TERMINAL

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a connector terminal which can be downsized, simultaneously has strong strength, and has superior contact reliability.

SOLUTION: Since a contact portion 3 of a connecting terminal 2 is formed by bending in the center of a plate width downward along its lengthwise direction, an occupying area in the plate width direction of the connecting terminal 2 becomes small so that a pitch can be narrower, and simultaneously strength of the contact portion 3 becomes strong. Since a contact pressure per unit area between a conductor and the contact portion 3 becomes large, contact reliability becomes superior.



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CLAIMS

[Claim(s)]

[Claim 1] The terminal for connection which pierces a conductive plate in the shape of ** length, makes an end the contact section, makes the other end the connection electrically connected with the electric conduction pattern of the circuit board, and is characterized by bending and forming said contact section along with a longitudinal direction at the core of the board width in the terminal for connection bent possible [elastic deformation] between said contact sections and said connections.

[Claim 2] Said contact section is a terminal for connection according to claim 1 characterized by for edges on both sides sticking and piling up after being bent.

[Claim 3] The terminal for connection according to claim 1 or 2 characterized by making the pars intermedia in alignment with the longitudinal direction of said contact section project to the method of outside.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The front view of the terminal for connection of this invention

[Drawing 2] The top view of the terminal for connection of this invention

[Drawing 3] The side elevation of the terminal for connection of this invention

[Drawing 4] X-X-ray sectional view of drawing 1

[Drawing 5] The front view of the connector which attached the terminal for connection concerning this invention

[Drawing 6] The top view furnished with the terminal for connection concerning this invention of a connector

[Drawing 7] Rear view furnished with the terminal for connection concerning this invention of a connector

[Drawing 8] The side elevation furnished with the terminal for connection concerning this invention of a connector

[Drawing 9] The Y-Y line sectional view furnished with the terminal for connection concerning this invention of a connector

[Drawing 10] The sectional view of the conventional connector

[Description of Notations]

1 Insulating Housing

2 Terminal for Connection

3 Contact Section

4 Leg

5 Bending Section

6 Stopper Wall

7 Terminal Hold Slot for Connection

8 ****

9 Pawl

10 Step

11 Supporter

12 Step

13 Opening Edge

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the terminal of a connector.

[0002]

[Description of the Prior Art] As shown in Fig. 4, the conventional connector terminal 101 consists of a long and slender metallic thin plate of right conductivity, and is incurvating the center section in the shape of U. The terminal 101 is held at the body 103 by stuffing this U-like section 102 into the crevice 104 of the body 103 from a lower part. The contact surface 105 which projects in a transverse-plane side is formed in one side of a terminal 101, and the energization force is given by the U-like section 102. The other side edge of a terminal 101 has extended to the tooth-back side of the body 103 as a connection 107 for connecting an electric wire.

[0003] However, such a connector terminal consisted of a long and slender metallic thin plate of right conductivity, and since a contact surface 105 was also sheet metal-like, it had the problem that reinforcement was weak. Moreover, since the connector had been miniaturized in recent years, the board width of a terminal also had the problem that became small and the reinforcement of a terminal became still weaker. moreover, spacing between terminals which adjoins with a miniaturization -- narrow -- not becoming -- it did not obtain, but since it was sheet metal-like, there was a problem that crosswise space was occupied and-izing of it could not be carried out [a ** pitch]. Furthermore, since the contact pressure per unit area also became small and predetermined contact pressure was not obtained when the board width becomes small, there was a problem that contact dependability was bad.

[0004]

[Problem(s) to be Solved by the Invention] The purpose of this invention has strong reinforcement, while it can miniaturize, and it offers a connector terminal with good contact dependability.

[0005]

[Means for Solving the Problem] This invention pierces a conductive plate in the shape of ** length, makes an end the contact section, makes the other end the connection electrically connected with the electric conduction pattern of the circuit board, and is characterized by bending and forming said contact section along with a longitudinal direction at the core of the board width in the terminal for connection bent possible [elastic deformation] between said contact sections and said connections.

[0006] Furthermore, after said contact section is bent, it is characterized by for edges on both sides sticking and piling up.

[0007] Furthermore, it is characterized by making the pars intermedia in alignment with the longitudinal direction of said contact section project to the method of outside.

[0008]

[Embodiment of the Invention] The example of this invention is explained to a detail with reference to a drawing below. Figs. 1 thru/or 9 show the example of this invention. As for one, insulating housing and 2 are the terminals for connection among the 8th Fig.

[0009] On the whole, the insulating housing 1 is the abbreviation mold for L characters, as shown in Figs. 5 thru/or 9, and two or more formation of the terminal hold slot 7 for connection for holding the terminal 2 for connection is carried out at the predetermined spacing. Every time the upper part is carrying out opening of the terminal hold slot 7 for connection and applies it to the back end (it sets

to drawing 9 and is a right corner) from the middle, it is open for free passage to base 1a of the insulating housing 1.

[0010] **** 8 is cut in the side attachment wall of the terminal hold slot 7 for connection.

[0011] Moreover, the opening edge 13 is formed in base 1a of the insulating housing 1.

[0012] Furthermore, the stopper wall 6 is formed in the insulating housing 1 at the insulating housing 1 and one.

[0013] As shown in Figs. 1 thru/or 4, the terminal 2 for connection is bent from the U character-like bending section 5, on the whole, is a letter of the abbreviation for U characters, and is formed by press working of sheet metal from the conductive sheet metal-like metal plate which has elasticity.

[0014] Moreover, a U character-like end is further bent to the method of outside, and it considers as the leg 4. From base 1a of the insulating housing 1, caudad, soldering of the leg 4 is carried out to a projection and the circuit pattern of the circuit board, and it is electrically connected with a circuit pattern. In this example, this leg 4 is the connection of the terminal 2 for connection.

[0015] On the other hand, the U character-like other end serves as the contact section 3. After bending caudad, being formed along with the longitudinal direction at the core of the board width and bending, edges on both sides stick the contact section 3, and it is piled up. Here, the board width is the width of face in [A] the 2nd Fig., a longitudinal direction is the direction of right and left among the 2nd Fig., and edges on both sides are the both ends of the board width. Moreover, the contact section 3 is making the pars intermedia in alignment with a longitudinal direction project to the method of outside.

[0016] The supporter 11 is formed between the leg 4 and the contact section 3. Moreover, back, the pawl 9 is formed a little from the center of a supporter 11.

[0017] Next, the assembly of this connector is explained. First, a conductive metal thin plate is pierced in the shape of ** length with a press machine. In case it pierces, bordering on steps 10 and 12, the board width of a supporter 11 is large, and as the board width of the contact section 3 and the leg 4 becomes small, it pierces compared with a supporter 11. the width of face between the Morozumi slot 8 where the board width of a supporter 11 is cut in the both sides of the terminal hold slot 7 for connection, and 8, and abbreviation -- it has equal width of face. Next, the pierced plate is bent, it bends in the shape of U character in the section 5, and 90 degrees of legs 4 are bent to the method of outside at it and coincidence. Next, the terminal 2 for connection which carried out in this way and was formed is inserted until it inserts from the bending section 5 and the leg 4 contacts the opening edge 13 from opening of the lower part of the terminal hold slot 7 for connection. When insertion is completed, the point of the contact section 3 contacts the stopper wall 6, and elastic deformation will be carried out it to the U character-like inside a little. Immobilization in the insulating housing 1 of the terminal 2 for connection is fixed to **** 8 after the pawl 9 has eaten away slightly.

[0018] Thus, if a conductor contacts the contact section 3, from the step 10 to the contact section 3 will carry out elastic deformation to the inner direction, will obtain predetermined contact pressure, and will connect the assembled connector terminal with a conductor electrically. A conductor and a circuit pattern are electrically connected to the circuit pattern of the circuit board by this through the leg 4 by which soldering is carried out.

[0019] Since such a connector terminal bends and forms the contact section 3 along with a longitudinal direction at the core of the board width, even if the terminal 2 for connection carries out press working of sheet metal and is made from sheet metal material, the reinforcement of the contact section 3 becomes strong. Moreover, since the occupancy area of the direction of the board width also becomes small, it can miniaturize by being made to a ** pitch. Furthermore, the contact pressure per unit area also becomes large, and contact dependability becomes good. Moreover, since the method of outside was made to project and the center section which met the longitudinal direction in the contact section 3 was formed, positive contact is acquired in the same contact location of the contact section. Furthermore, since it is fixed to the insulating housing 1 after the point of the contact section 3 contacted the stopper wall 6 of the insulating housing 1 and the terminal 2 for connection has carried out elastic deformation to the U character-like inside a little, in case a conductor is contacted, elastic deformation of the terminal 2 for connection for obtaining predetermined contact pressure can be made small, and it can miniaturize further.

[0020] In addition, this invention is not limited to the above-mentioned example, and can consider deformation various by within the limits of this invention. For example, it is not necessary to necessarily bend the terminal 2 for connection in the shape of U character, and the contact section 3 should just be bent along with the longitudinal direction at the core of the board width also by the shape of the shape of S character, and L character. Moreover, although this invention has stuck and piled up edges on both sides after bending the contact section 3, it is not necessary to not necessarily stick it, and it should just be bent. Moreover, although the leg 4 is also bent 90 degrees of abbreviation from the supporter 11, without bending, behind a supporter 11, straight extension may be carried out and you may form.

[0021]

[Effect of the Invention] As explained above, ** pitch-ization of a terminal array is attained and it can miniaturize the whole connector while it can strengthen reinforcement, since the terminal for connection of this invention is bent caudad and formed along with a longitudinal direction at the core of the board width of a terminal. Furthermore, contact pressure becomes large and contact dependability becomes good.

[0022] Moreover, since the contact section projected the center section in alignment with a longitudinal direction up and formed it, it can contact in the same contact location and positive contact is acquired.

[0023]

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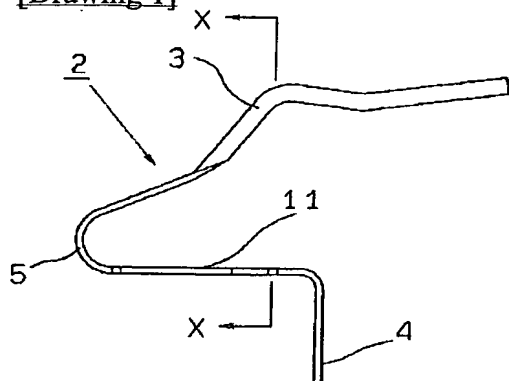
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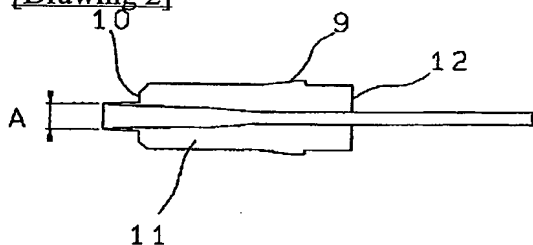
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DRAWINGS

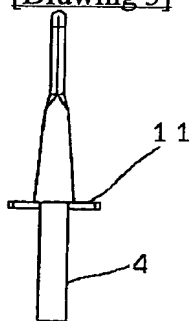
[Drawing 1]



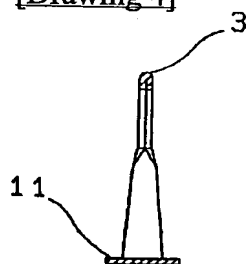
[Drawing 2]



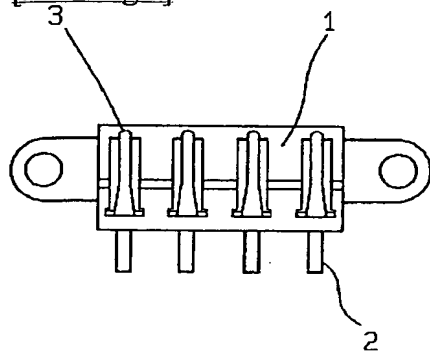
[Drawing 3]



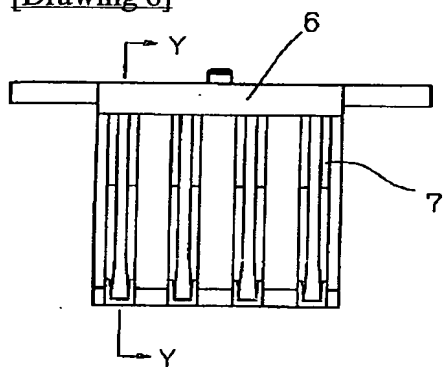
[Drawing 4]



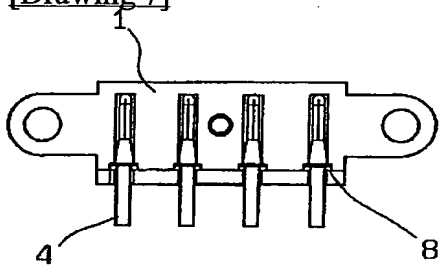
[Drawing 5]



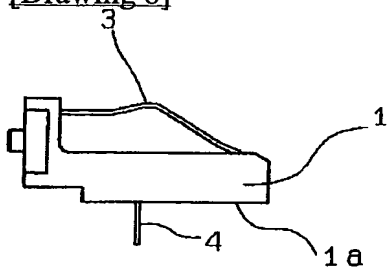
[Drawing 6]



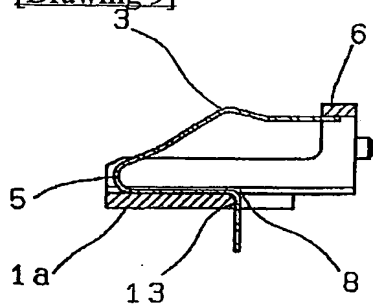
[Drawing 7]



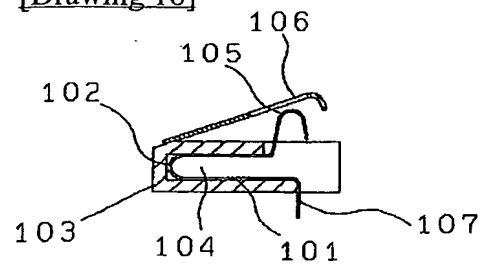
[Drawing 8]



[Drawing 9]



[Drawing 10]



[Translation done.]